

## EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	183	307/82.ccls. and transformer	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/04/11 16:04
L2	20	307/82.ccls. and transformer same (stepup stepdown step-up step-down (step adj (up down)))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/04/11 16:07
L3	65	battery same utility same transformer with (stepup stepdown step-up step-down (step adj (up down)))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/04/11 16:07
S1	108	((two adj quadrant)(two-quadrant)) near3 operation	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 09:10
S2	4	((two adj quadrant)(two-quadrant)) near3 operation).clm.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/03 13:58
S3	4	S1 and S2	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/03 14:12
S4	580	((two adj quadrant)(two-quadrant)(four adj quadrant)(four-quadrant)) near3 operation	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 10:03
S5	49	((two adj quadrant)(two-quadrant)) and ((four adj quadrant)(four-quadrant))) near3 operation	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 09:11

## EAST Search History

S6	1523	(((two adj quadrant)(two-quadrant)) or ((four adj quadrant)(four-quadrant))).clm.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/03 14:14
S7	1523	(((two adj quadrant)(two-quadrant))((four adj quadrant)(four-quadrant))).clm.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/03 14:15
S8	281	(((two adj quadrant)(two-quadrant))((four adj quadrant)(four-quadrant)) same operation).clm.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/03 14:37
S9	3134	high adj frequency adj transformer	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/03 14:53
S10	37	S9 and 307/43-87.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 14:02
S11	2	S9 and S5	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/03 15:09
S12	19	("4161023"   "4168477"   "4347474"   "4408268"   "4672303"   "4713742"   "4727308"   "4729088"   "4736151"   "4801859").PN. OR ("4947311").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2005/11/03 15:11
S13	1041	(((two adj quadrant)(two-quadrant)) and ((four adj quadrant)(four-quadrant)))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/03 16:08

## EAST Search History

S14	3	S13 and S9	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/03 16:09
S15	1	S14 not S11	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/03 16:12
S17	57199	(center adj (tap tapped)) (common adj point)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/03 16:14
S18	307	S17 and S9	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/03 16:14
S19	12	S18 and S10	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/03 16:36
S20	109	S18 and battery	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/03 16:36
S21	1041	((two adj quadrant)(two-quadrant)) and ((four adj quadrant)(four-quadrant)))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/06 16:57
S22	97	S21 and transformer	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 09:59

## EAST Search History

S23	72200	boost	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 10:00
S24	3134	high adj frequency adj transformer	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 10:00
S25	175	S23 and S24	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 13:41
S26	13053	(four adj quadrant)(four-quadrant)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 10:03
S27	57199	(center adj (tap tapped)) (common adj point)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 10:03
S28	55	S25 and (S27 or S26)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 10:34
S29	8256	boost and transformer	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 10:35
S30	1147	S29 and (S27 or S26)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 10:38

## EAST Search History

S31	645	S30 and inductor	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 11:00
S32	2	("4,186,437").PN.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/11/04 10:43
S33	523	S31 and (ac or (alternating adj current))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 11:45
S34	202	363/101.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 11:49
S36	150	363/21.06.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 12:14
S37	25	("4533986"   "4686615"   "4761722"   "5272613"   "5274543"   "5408403"   "5805432"   "5907481"   "5973939"   "5986895"   "6023037"   "6064580"   "6069799"   "6111769"   "6181084"   "6262901"   "6344986"   "6452367"   "6452816"   "6469915"   "6545883"   "6556462"   "6560127"   "6580626"   "6650552").PN. OR ("6888728").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2005/11/04 12:10
S38	1137	363/97.ccls.	US-PGPUB; USPAT; USOCR	OR	OFF	2005/11/04 12:10
S39	689	363/16.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 12:14

## EAST Search History

S40	25	("3571692"   "3660749"   "3947747"   "4020408"   "4449173"   "4491768"   "5198969"   "5295058"   "5442534"   "5528480"   "5535112"   "5541828"   "5552695"   "5565761"   "5570276"   "5805432"   "5808879"   "5815380"   "5815381"   "5828558"   "5999417").PN. OR ("6246592").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2005/11/04 12:22
S41	1789	307/66.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/11/04 12:23
S42	20	307/66.ccls. and S24	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/11/04 12:24
S43	2	S25 and S21	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 13:41
S45	37	S24 and 307/43-87.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 14:02
S46	12	S45 and boost	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 14:02
S47	2	S21 and S24 and S23	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 14:06

## EAST Search History

S48	18202	IGBT or (insulated adj gate adj bipolar adj transistor)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 16:28
S49	3134	high adj frequency adj transformer	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 17:18
S50	156	S48 and S49	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 16:18
S51	5585	S48 same mosfet	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 16:28
S53	57	S51 and S49	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 16:29
S54	72200	boost	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 17:18
S55	175	S49 and S54	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 17:19
S56	37	S49 and 307/43-87.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 17:19

## EAST Search History

S57	12	S55 and S56	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 17:24
S58	0	S57 and ("50" near3 duty)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 17:24
S59	18	S49 and ("50" near3 duty)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/04 17:24
S60	2	("6650552").PN.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/11/06 15:15
S61	128	(buck or boost) adj regulation	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/06 15:01
S62	3134	high adj frequency adj transformer	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/06 15:03
S63	1	S61 and S62	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/06 15:03
S64	804	S62 and (ac and dc)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/06 15:15



## EAST Search History

S65	143	S64 and utility	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/06 15:16
S66	55	S65 and (boost or buck)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/06 15:16
S67	47	S66 and inductor	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/06 16:29
S68	8	S67 and photovoltaic	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/06 15:37
S69	2	S67 and (duty near3 "50")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/06 16:33
S70	2	S65 and (duty near3 "50")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/06 16:33
S71	2	S65 and (duty near4 "50")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/06 16:33
S72	18	S64 and (duty near4 "50")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/06 16:33

## EAST Search History

S73	1041	(((two adj quadrant)(two-quadrant)) and ((four adj quadrant)(four-quadrant)))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/06 16:57
S74	3	S73 and S62	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/06 16:58
S75	3	S73 and S62	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/06 16:58
S76	2	S75 and boost	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/06 16:58
S77	1812	307/64.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/11/06 17:36
S78	1038	utility and battery and photovoltaic	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/04/11 10:23
S79	264	S78 and transformer	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/04/11 10:50
S81	381	307/43-87.ccls. and battery and utility and transformer	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/04/11 11:35

## EAST Search History

S82	9954	307/43-87.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/04/11 11:36
S83	26380	free adj running	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/04/11 11:39
S84	78	S82 and S83	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/04/11 11:39
S85	862	(free adj running) same battery	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/04/11 11:42
S86	23	S82 and S85	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/04/11 11:39
S87	91	(free adj running) same battery same (duty PWM (pulse adj width))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/04/11 12:00
S88	947	"323"/\$.ccls. and ((bi-directional) (bi adj directional) (bidirectional))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/04/11 12:01
S89	51	S88 and free adj running	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/04/11 12:01

## EAST Search History

S90	3	S88 and (free adj running) same ((pulse adj width)(duty adj cycle) PWM)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/04/11 12:03
S91	250	"363"/\$.ccls. and (master with slave)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/04/11 12:03
S92	84	S91 and battery	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/04/11 12:03
S93	0	("2004/0004402").URPN.	USPAT	OR	OFF	2006/04/11 16:03